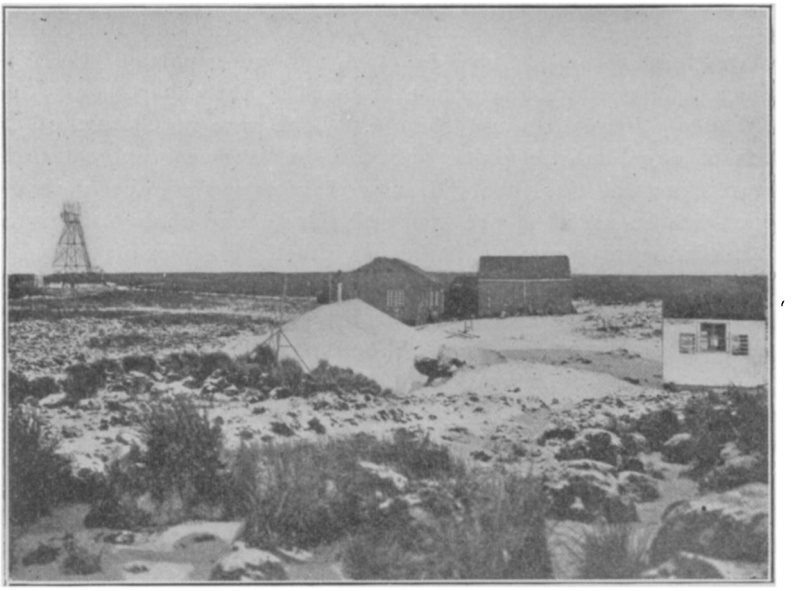
## AN ARGENTINE OBSERVATORY AND SOME PATAGONIAN LAKES.

Captain H. L. Crosthwait, R.E., has a paper (*Geographical Journal*, March, 1905) on his journey to Lake San Martin, Patagonia, in connection with the demarcation of the Chile-Argentina boundary. Before landing in Patagonia his party made a short trip through the channels of Tierra del Fuego, and the first place touched at was New Year Island, situated in Lat. 54° 59′ S. at the south end of South America, about five miles off the north coast of Staten Island. The object was to visit the Magnetic and Meteorological Observatory established there by the Argentine Government



MAGNETIC AND METEOROLOGICAL OBSERVATORY, NEW YEAR ISLAND.

as a base observatory, in connection with the Antarctic expedition then in progress under Dr. Nordenskiöld.

We reproduce here from the *Geographical Journal* a view of this observatory. Captain Crosthwait speaks of it as complete in every respect:

> It is superintended by four Argentine naval officers, who, in the interests of science, exile themselves to this lonely and desolate spot. The attention they give to their work is well illustrated by the fact that they never allow the annual range of temperature in the magnetic observatory to exceed 1° C. The following temperature conditions have been recorded on this island, as given me by the officer in charge, since the observatory was opened in February, 1902. Highest record, 55° Fahr.; lowest, 16° Fahr.; annual mean, 41° Fahr. The magnetic observatory is kept at an almost constant temperature of 64° Fahr.

Staten Island was just visible through mist, and the writer says that an intense gloom beyond all description seems to overhang this place, which makes it look like the confines of the world. He speaks of Cape Horn as a "famous but very ordinary promontory."

A very striking feature of Beagle Channel in Tierra del Fuego is the astonishing number and variety of glaciers which occupy all the valleys descending from every mountain high enough to be covered with a mantle of perpetual snow. The valleys are sheltered from the summer sun, which accounts, in part, for the great extension of the glaciers. The coolness of the summer, rather than the severity of the winter, is also an important factor in maintaining both the glaciers and the comparatively low snow-line, which cannot be much more than 2,000 feet above sea-level. These are the main factors in the explanation of this glacier region. Most of the large glaciers, however, show signs of shrinkage.

Entering Patagonia, the party started for Lake San Martin, one of the lakes in the Cordilleras that, with their environment, were little known previous to the boundary surveys. On the way to San Martin the party visited lakes Argentino and Viedma, south of it. Viedma sends its waters to Argentino, which has an outlet to the Atlantic through the Santa Cruz River. Lake Argentino is a splendid sheet of water, 60 miles long and 10 to 20 broad, its western end having several long, narrow arms penetrating deep into the recesses of the Cordilleras, where they receive the waters of numerous glaciers. Large icebergs were found floating on the lake. All these lakes are fed by glaciers.

The physical geography of Lake San Martin region is especially significant. This lake, unlike Viedma and Argentino, has an exit into the Pacific. At the east end of the valley there is a shallow lake called Laguna Tar:

> At present its waters flow into Lake San Martin, *i. e.*, in a westerly direction. The continental water-divide is here so ill defined that a cutting of a few feet would cause Laguna Tar to flow to the Atlantic. There is the dry bed of a stream visible, and in time of flood this lake may, temporarily, have an exit in both directions. The continental water-divide would then run through a lake. A water-divide, therefore, without precise knowledge, may prove a very inexact definition for a boundary.

Captain Crosthwait says that San Martin undoubtedly occupies what was once a strait joining the Atlantic and the Pacific. The main body of water runs almost east and west, penetrating into the heart of the Cordillera. The mountains rise abruptly from its shores. It is subject to the most violent storms, which make the lake very rough and dangerous to navigate. The rocks around San Martin are mostly basalt. In many instances the basalt is cellular,

indicating that it had flowed under water. The geological sequence of events here seems to have been somewhat as follows:

A submerged land, when the sites of the great lakes were arms of the sea, such as we now find in Tierra del Fuego; volcanic activity, when lava flowed under water, as shown by the existing cellular basalt; elevation of the land, for we find numerous instances of upraised beaches with cellular basalt overlying them; following this, another period of volcanic action, and then an age of ice, for there is very marked evidence of ice-action on the basalt. In the present glaciers we have the lineal descendants of a glacial period.

The writer says that Patagonia is a fine field for the traveller who wishes to explore unknown glaciers and study glacial action. The climate, in summer, though cool, is very healthful.

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## GEOGRAPHICAL RECORD.

### AMERICAN GEOGRAPHICAL SOCIETY.

TRANSACTIONS OF THE SOCIETY, APRIL, 1905.—A Regular Meeting of the Society was held at Mendelssohn Hall, No. 119 West Fortieth Street, on Tuesday, April 18, 1905, at 8.30 o'clock P.M.

Vice-President Moore in the chair.

The following persons, recommended by the Council, were elected Fellows:

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| Benjamin J. Macdonald. | Samuel N. Hoyt. |
| Percival Lowell. | Luis Enrique Bonilla. |
| Frederick W. Frankland. | W. A. Peck. |
| Charles E. Morrison. | William W. Pennell. |
| William D. Mount. | Arthur Blair Moody. |
| Amos Lawrence Mason. | Charles Franklin Rand. |
| Henry C. Swords. | C. W. Parks. |
| Charles H. Reckefus, Jr. | |

The Chairman then introduced Professor E. L. Stevenson, who addressed the Society on The World as seen through the Eyes of Mediæval Map-makers. Stereopticon views were shown.

On motion, the Society adjourned.

### AMERICA.

THE GEOGRAPHICAL SOCIETY OF PHILADELPHIA.—The growth of membership of this Society during the past two years has been very gratifying. After May 1 an initiation fee of $5 will be charged in addition to the annual fee of $5. The Society and its library are now commodiously housed at 1520 Chestnut Street, and the library is constantly growing. Professor Heilprin gave a course of six lectures on current geographic topics in April. The Society has two regular meetings each month from November to May inclusive, besides special courses of lectures; its autumn and spring excursions are attractive features.

EVAPORATION IN THE UNITED STATES.—The problem of accurate and comparable observations of evaporation has always been one of the most unsatisfactory subdivisions of meteorology. Evaporation depends upon so many different factors, and the difficulty of agreement upon some standard evaporimeter is so great that, so far, absolute values of the amount of water evaporated have not been obtainable.